



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/504,235	02/15/2000	Shunpei Yamazaki	07977/008004/US2938D1D2	7610
26171 7590 07/25/2008 FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022				
EXAMINER LEWIS, DAVID LEE				
ART UNIT 2629		PAPER NUMBER		
MAIL DATE 07/25/2008		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Supplemental  
Notice of Allowability**

**Application No.**

09/504,235

**Examiner**

DAVID L. LEWIS

**Applicant(s)**

YAMAZAKI ET AL.

**Art Unit**

2629

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERIT IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/28/2008.
2. ☒ The allowed claim(s) is/are 1-4,7-10,13,14,17,18,21,22,25,26,29-32,35-38,41,42,45,46,49,50,53,54 and 64-99.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_.

/David L Lewis/  
Primary Examiner, Art Unit 2629

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with John F. Hayden on 4/28/2008.

The application has been amended as follows:

Added a "." (period) , after shield

64. **(Examiner Amended)** The unit of claim 1 wherein information is displayed on said shield.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID L. LEWIS whose telephone number is (571)272-7673. The examiner can normally be reached on M, T, W, TH, F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703 305-4938. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David L Lewis/  
Primary Examiner, Art Unit 2629  
April 28, 2008

### REASONS FOR ALLOWANCE

1. Claims 1-4, 7-10, 13, 14, 17, 18, 21, 22, 25, 26, 29-32, 35-38, 41, 42, 45, 46, 49, 50, 53, 54, and 64-99 are allowable over the prior art of record.
2. Claims 5, 6, 11, 12, 15, 16, 19, 20, 23, 24, 27, 28, 33, 34, 39, 40, 43, 44, 47, 48, 51, 52, and 55-63 were cancelled.
3. The following is an examiner's statement of reasons for allowance: The Applicant has withdrawn the Application from issue for the purpose of amending the independent claims and adding new claims 88-99. Claims 1-4, 7-10, 13, 14, 17, 18, 21, 22, 25, 26, 29-32, 35-38, 41, 42, 45, 46, 49, 50, 53, 54, and 64-99 are allowable over the prior art of record. The feature of independent claims 1, 7, 13, 17, 21, 25, 29, 35, 41, 45, 49, and 53 directed towards allowable subject matter are wherein at least said channel formation region contains hydrogen atoms at a density of  $1 \times 10^{19}(20)$  atoms  $\text{cm}^{-3}$  or lower, and contains carbon and nitrogen atoms at a density of  $5 \times 10^{18}(19)$  atoms  $\text{cm}^{-3}$  or lower, and contains oxygen atoms at a density of  $5 \times 10^{19}$  atoms  $\text{cm}^{-3}$  or lower. These features in combination with the other limitations of the claims makes them allowable over the prior art of record. Zavracky et al. provides no support for such a teaching of said specific channel density composite. Therefore said features in combination with the other limitations of the above independent claims are found allowable over the prior art of record.

Art Unit: 2629

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **David L. Lewis** whose telephone number is **(571) 272-7673**. The examiner can normally be reached on MTWTHF from 8 to 5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached on **(571) 272-7681**. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571)-273-8300.

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

---

Examiner: David L. Lewis

**April 28, 2008**

/David L Lewis/

Primary Examiner, Art Unit 2629